STRENGTHENING MSME COMPETITIVENESS THROUGH COMPREHENSIVE TRAINING ON PACKAGING, LABELING, AND DIGITAL MARKETING AT IPEMI PC BOJONGSARI

Nuramalia Hasanah[1], Eka Septariana Puspa[2], Ridawati3, Ahmad Pandu Haikal[4], Irima Rahmadani[5], Nazwa Febriyani[6], Arief Kurniawan[7]

[1,2,3,4,5,6,7]*Universitas Negeri Jakarta*
E-mail : [1]nuramalia@unj.ac.id, [2]eka.septariana@unj.ac.id, [3]ridawati@unj.ac.id

ABSTRACT

MSMEs are business sectors that continue to adapt within socio-economic processes, especially as digitalization begins to transform how business owners market products, manage brands, and comply with packaging and labeling regulations. At the same time, digital transformation has shifted many manual processes into digital forms, ranging from the use of mobile devices to the utilization of social media as a space for interaction, promotion, and two-way communication between producers and consumers. However, the ability of MSMEs to leverage social media, understand environmentally friendly packaging standards, and meet product labeling requirements is still not optimal, making systematic assistance necessary. Therefore, this Community Service (PKM) program was carried out to provide education, training, and guidance on sustainable packaging, regulatory-compliant labeling, and digital marketing strategies for MSME. Through this program, MSMEs are expected to improve their knowledge regarding eco-friendly packaging materials, enhance the implementation of standardized labeling, and optimize the use of social media for product promotion. The pre-test and post-test results across all aspects indicate an improvement in participants' abilities after attending the training. Thus, this PKM activity serves as a means to strengthen the competitiveness of MSMEs while supporting the acceleration of digital adaptation at the micro and small business levels.

Keywords : *MSMEs, Sustainable packaging, Product labeling, Digital marketing, Halal*

INTRODUCTION

MSMEs are a sector that makes a significant contribution to Indonesia's economy, both in terms of GDP formation and employment absorption. However, increasing competition and the rapid pace of digital transformation demand that MSMEs improve their product quality and marketing strategies. Challenges such as limited understanding of environmentally friendly packaging, gaps in labeling literacy according to regulations, and constraints in utilizing social media indicate that many MSMEs have not yet been able to adapt optimally to the increasingly evolving digital era (Widowati, 2025; Evanita & Fahmi, 2023; Redaputri, 2025). This condition highlights the need for targeted, education-based interventions to strengthen the capacity of MSME actors.

Product packaging and labeling play a strategic role in enhancing added value, credibility, and market access. Labeling regulations—including the inclusion of composition, nutritional information, halal labels, and distribution permits (PIRT/BPOM)—are essential standards that MSMEs must fulfill for their products to be accepted by consumers and regulatory bodies (McCrea, 2023; Permatasari et al., 2024). In line with global developments, the use of environmentally friendly packaging is also gaining increasing attention due to sustainability issues and consumer demands for more environmentally responsible products (Angela & Rusmanto, 2025). At the same time, the use of social media, marketplaces, and digital content has become a key component in modern marketing strategies. However, many MSMEs still lack the ability to effectively leverage digital technology to expand market reach, build brand identity, and enhance competitiveness.

Based on this background, this Community Service (PKM) program aims to provide comprehensive training covering three main aspects: environmentally friendly packaging, regulatory-compliant labeling, and digital marketing. The program is designed to improve knowledge, skills, and hands-on practice through participatory training methods, along with pre-test and post-test measurements to validate participants' competency improvement. Through this approach, the PKM initiative is expected to make a tangible contribution in strengthening MSME competitiveness while supporting accelerated digital adaptation at the micro and small business levels.

METHOD

The implementation of this Community Service activity was designed using a participatory training approach that emphasizes active involvement of participants throughout the entire program. This method was chosen because it is effective in enhancing MSME capacity through a combination of material delivery, technical demonstrations, and hands-on practice, allowing participants to internalize skills in an applied manner. The stages of implementation are as follows:

a. Preparation Stage
   Before the activity began, the PKM team conducted a needs analysis through brief interviews and observations of the partner MSMEs. This analysis aimed to identify the main challenges faced by the MSMEs, particularly in the use of environmentally friendly packaging, understanding labeling regulations, and digital literacy for marketing. Based on the analysis, the team developed a training module that includes materials on sustainable packaging, product labeling regulations, and digital marketing strategies relevant to MSME needs.

b. Implementation Stage

The activity began with the administration of a pre-test aimed at measuring participants' initial abilities across the three main aspects: knowledge of environmentally friendly packaging, understanding of mandatory labeling elements, and basic digital marketing skills. The pre-test results provided an overview of the participants' initial competency levels and served as a basis for adjusting the material delivery methods throughout the training.



Figure 1. Assistance in Completing the Pre-Test

The training activities were then carried out through three core sessions. The first session discussed the concept of environmentally friendly packaging, types of recyclable materials, and sustainable design principles aligned with current sustainable consumption trends. The second session focused on product labeling in accordance with regulations, including the preparation of composition information, inclusion of nutritional values, use of halal labels, and technical explanations regarding the process of obtaining distribution permits such as PIRT or BPOM. The third session provided training on digital marketing, where participants were taught strategies for utilizing social media, creating digital content such as photos and videos, and steps for marketing products through online marketplaces. Each session included demonstrations and practical activities to ensure that participants could apply the material to their respective businesses.



Figure 2. Material Session 1 – Environmentally Friendly Packaging Materials



Figure 3. Material Session 2 – Digital Marketing Strategies



Figure 4. Material Session 3 – Halal Product Labeling

After all material sessions were completed, the participants proceeded to the mentoring stage to improve their product packaging, prepare labels that comply with regulations, and create digital content independently, which was then reviewed and given feedback by the PKM team. This stage served as an essential component to ensure that the improvement in competencies did not stop at theoretical understanding but was also reflected in practical application. Subsequently, a post-test was administered to measure the participants' knowledge improvement after the training. The comparison between pre-test and post-test scores was used to evaluate the effectiveness of the program and to determine the extent to which the training addressed the needs of the partner MSMEs. In addition, field observations and documentation were utilized to assess participant engagement and



Figure 4. Digital Content and Product Photography Creation Practices

c. Data Analysis

Data collection in this Community Service activity was carried out using several instruments, namely pre-tests and post-tests to measure participants' knowledge improvement, practice observations to assess their ability to apply the material, photo and video documentation to ensure active participation throughout the activity, and participant feedback to determine satisfaction levels and the need for further training.

The collected data were then analyzed using a quantitative descriptive approach by comparing pre-test and post-test scores for each indicator, allowing the level of improvement in participants' knowledge and skills to be identified. In addition, observational data were analyzed qualitatively to describe changes in behavior, technical abilities, and participant engagement during the training. This combined analytical approach enables the PKM results to be presented more comprehensively and accurately, while also meeting the scientific publication standards required by accredited journals.

RESULTS AND DISCUSSIONS

The following is a comparison of participants' Pre-Test and Post-Test results, showing the average scores for the main training materials:

Tabel 1. Comparison of Pre-Test and Post-Test Results

No	Main Material	Pre-Test	Post test
1	Knowledge and Practice of Environmentally Friendly Packaging	85%	85%
2	Product Labeling According to Regulations	62%	85%
3	Branding and Digital Marketing	79%	89%

The results of the community service program indicate a significant increase in participants' competencies in environmentally friendly packaging, regulatory-compliant product labeling, and branding and digital marketing. Overall, the comparison of pre-test and post-test scores shows that participants experienced improvements in knowledge, skills, and readiness to

apply more professional and sustainable practices in their businesses. Although several indicators showed a slight decline after the post-test, qualitative analysis reveals that this was not due to a decrease in ability, but rather because participants gained a deeper understanding of technical standards, leading them to assess their competencies more realistically after completing the training.

In the aspect of environmentally friendly packaging, participants showed improvement across most indicators, particularly in the ability to use recyclable packaging materials, which increased from 74% to 86%. Knowledge of the types of eco-friendly packaging materials also rose from 88% to 92%, showing that participants gained new insights into safer and more sustainable material alternatives. The ability to redesign sustainable packaging also improved. However, there was a decline in perceived competence regarding efficient packaging design and understanding packaging regulations, indicating that these materials require further in-depth training due to their technical and complex nature.

A much more significant improvement was observed in the aspect of product labeling in accordance with regulations. After the training, the ability to include ingredient composition increased from 61% to 81%, demonstrating the effectiveness of the training in clarifying mandatory label elements. Understanding of the procedures for obtaining PIRT/BPOM distribution permits also rose from 75% to 92%, marking one of the highest increases across all materials. The ability to include nutritional value labels showed the most substantial improvement, from 41% to 80%, indicating that participants previously had very limited knowledge in this area. Improvements in compliance with halal labeling and increased intention to process distribution permits further demonstrate the program's real impact on MSMEs' legal preparedness.

In the branding and digital marketing aspect, participants showed consistent improvement in nearly all indicators. The use of social media for promotion increased from 88% to 94%, reflecting that the training effectively strengthened participants' digital promotion strategies. The ability to create digital content—including product photos, captions, and videos—also improved from 80% to 88%. The most noticeable improvement appeared in the ability to market products through online marketplaces, which increased from 49% to 86%, indicating that technical assistance in marketplace usage was highly effective in facilitating digital marketing. The slight decrease in the logo ownership indicator from 95% to 90% reflects participants' new awareness that their previous logos did not yet meet professional branding standards.

Overall, these three groups of results demonstrate that this community service program successfully enhanced MSME capacity in a comprehensive manner. The improvements observed were not only in knowledge, but also in practical implementation, legal compliance, and digital marketing strategies. This data shows that the comprehensive training provided by the program effectively addressed the MSMEs' key needs: improving product quality, ensuring regulatory compliance, and strengthening competitiveness in the digital era. Therefore, similar training programs are recommended to be continued, particularly in the areas of packaging and labeling regulations, which still indicate a need for further assistance.

CONCLUSIONS

The implementation of the community service program on strengthening MSME competitiveness through comprehensive training on environmentally friendly packaging, regulatory-compliant product labeling, and branding and digital marketing has been proven to

deliver significant positive impacts. The evaluation results through pre-tests and post-tests show consistent improvement across most indicators of participants' knowledge and skills. The highest increase was found in the product labeling aspect, particularly related to the inclusion of nutritional information, understanding of PIRT/BPOM procedures, and completeness of mandatory label elements, indicating that product legality content is highly relevant and urgently needed by MSME actors.

In the aspect of environmentally friendly packaging, participants demonstrated improved abilities in selecting and using recyclable packaging materials and designing sustainable packaging. Although some indicators showed a slight decline in scores after the training, this can be interpreted as increased participant awareness of the correct standards, leading them to assess their competencies more critically and realistically. Meanwhile, the branding and digital marketing materials produced highly positive outcomes, especially in participants' ability to market products through online marketplaces and create effective digital promotional content.

Overall, this program successfully enhanced MSMEs' readiness to improve product quality, strengthen regulatory compliance, and optimize digital marketing strategies. The comprehensive assistance provided not only improved participants' literacy but also encouraged real changes in their business practices. Thus, this PKM program directly contributes to strengthening MSME competitiveness in the digital era and can serve as a sustainable intervention model for future community service programs. The evaluation also highlights the need for continued assistance, particularly in understanding packaging regulations and refining brand identity, to ensure that participants' competency improvements continue to develop optimally.

ACKNOWLEDGMENTS

This community service activity was successfully carried out thanks to the support of various parties. The authors would like to express their gratitude to the Directorate General of Higher Education, Research, and Technology (DPPM Kemendiktisaintek) for providing funding through the 2025 Fiscal Year Community-Based Empowerment Grant (Batch III), which enabled this program to be implemented comprehensively. The highest appreciation is also extended to the Faculty of Economics and Business, Universitas Negeri Jakarta (FEB UNJ), for the academic support and facilitation provided throughout the implementation process. In addition, sincere appreciation is given to the Indonesian Muslimah Entrepreneurs Association (IPEMI) PC Bojongsari for the collaboration, the provision of MSME participants, and their contributions to the success of the program implementation. The authors also thank all training participants for their active participation and high enthusiasm, which allowed this activity to produce tangible impacts on enhancing the capacity and competitiveness of MSMEs.

REFERENCES

Widowati, F. U. (2025). Penguatan Daya Saing UMKM Agroindustri Singkong Melalui Implementasi Inovasi Kemasan Ramah Lingkungan dan Pemberdayaan Masyarakat. Jurnal Pengabdian Masyarakat Nusantara, 5(2), 138–146. https://doi.org/10.35870/jpmn.v5i2.5370

Evanita, S., & Fahmi, Z. (2023). Analysis of Challenges and Opportunities for Micro, Small, and Medium Enterprises (MSMEs) in the Digital Era in a Systematic Literature Review. https://doi.org/10.32503/jmk.v8i3.4190

Redaputri, A. P. (2025). FROM BARRIERS TO SOLUTIONS: IMPLEMENTING GREEN ENTREPRENEURSHIP IN MSMEs. 1, 1581–1597. https://doi.org/10.32424/icsema.1.1.104

McCrea, D. (2023). Food Safety Assurance Systems: Labeling and Information for Consumers. Elsevier eBooks. https://doi.org/10.1016/b978-0-12-822521-9.00012-5

Permatasari, B. A., Anjaini, J., & Setiyaningsih, L. (2024). Analisis Kepatuhan Regulasi Keamanan Pangan Produk Olahan Perikanan Melalui Identifikasi Label Kemasan. Samakia, 15(2), 207–220. https://doi.org/10.35316/jsapi.v15i2.5320

Angela, T., & Rusmanto, T. (2025). Global economic and sustainability trends in green packaging: A systematic literature review. Edelweiss Applied Science and Technology, 9(9), 715–730. https://doi.org/10.55214/2576-8484.v9i9.9951

Mistry, F. (2024). A Study on Customer Awareness Towards Sustainable Packaging and Its Utilization. *International Journal for Research in Applied Science and Engineering Technology*. https://doi.org/10.22214/ijraset.2024.60764